PAPERS

IN

COLONIES AND TRADE.

The GOLD ISIS MEDAL *was this Session voted to Mr.* H. E. SIEVIERS, *of Lower Thames-street, for Herrings caught in the British Seas, and cured in the Dutch manner. The following Communications were received from him, and specimens of the Herrings were produced and examined before a Committee appointed for the purpose.*

SIR,

As a candidate for the Society's Gold Medal of the year 1814, I beg leave to present two samples of British Herrings, cured in all respects after the manner of the Dutch. Those marked *A* having been caught and cured on the coast of Shetland on board ship; those marked *B* were caught upon the coast of Yarmouth, and cured in my extensive warehouse there.

I beg leave to submit, that I have been employed in the cure of Dutch herrings near twenty years, twelve of which I passed

I passed in Holland, the remainder in England. That for the last four years, I have annually exported from 3 to 4000 barrels of herrings of this cure to the continent, and small quantities actually to Amsterdam, and large orders for the West Indies, a decided proof I presume of the great superiority of my peculiar method of cure.

The whole of these fish were caught by vessels sent to sea for my account and cured by my direction and positive instruction; Certificates of which accompany the herrings.

Further, I have only to solicit the favour of an intimation when these casks are to be opened, in order that my Cooper may attend to shew them, a circumstance in some measure proper to their good appearance.

Subjoined you will receive the method of cure.

I am, Sir,

Your obedient Servant,

H. E. SIEVERS.

Dutch Herring Warehouse, No. 52, Lower Thames-st.
7th February, 1814.

To C. TAYLOR, M. D. SEC. to the Society of Arts, &c.

Method of curing Dutch Herrings referred to.

As soon as the fish are taken they are gipped, that is, gutted, and afterwards sprinkled with salt in their own blood, in large square, round, or oval tubs, about 1½ feet deep, in England called stir tubs, in Holland warr backs, where the fish are well stirred together, that the salt may take equal effect. The barrels must be ready to use instantaneously for packing with salt, of which I generally use four

barrels to 14 barrels (a last) of fish, they are then headed up and placed in the ship's hold, each barrel being marked with the date of heading, about four or five days after, wind and weather permitting ; each barrel is again opened for filling up, and care must be taken that they are always kept in this state, otherwise they will become rancid, or what is termed rusty; in this state they are brought into port, here they are repacked as occasion may require, in various packages suitable to the market they are destined to. For home consumption and Baltic trade, they merely require to be filled up; for the West Indies they require repacking into small kegs of about one gallon each, with the addition of two pound of salt to each keg.

I do solemnly declare this to be the true method of curing Dutch herrings, as practised by me and my men in curing the samples now exhibited by me.

H. E. SIEVERS.

CERTIFICATES.

Yarmouth, Norfolk, March 1, 1814.

THIS is to certify, that there were cured upon my premises at Yarmouth, in the season of 1813, by and on account of H. E. SIEVERS of the City of London, and by his sole direction and management, twelve hundred and seventy barrels of white herrings, the whole of which were repacked and forwarded to the port of London for exportation, equal in all respects to sample marked *B*, the sample being a part of them.

Witness my hand, THOMAS BISHOP.

Yarmouth,

Yarmouth, Norfolk, March 1, 1814.

THIS is to certify, that there were repacked on my premises at Yarmouth, and forwarded to London for exportation from thence, two thousand nine hundred barrels of British herrings cured after the manner of the Dutch, and in my opinion in every way equal to the best Dutch herrings, by H. E. SIEVERS, of Lower Thames-street, London, and by his direction and sole management, and that the whole of the above fish were caught on the coast of Shetland in British vessels, in the season 1813, equal in all respects to the sample delivered, marked *A*, such sample being a part of them.

Witness my hand, THOMAS BISHOP.

London, March 1, 1814.

THIS is to certify, that we have examined and superintended the shipping of two thousand five hundred barrels of deep sea herrings, cured after the manner of the Dutch for exportation, and of the catch of the season 1813, which were shipped for and on account of H. E. SIEVERS, of Lower Thames-street, in the City of London, and were in our opinion equal to Dutch herrings.

(Witness our hands,)
JAMES CALDER, principal Officer of the fishery.
FRED. CAMPBELL, assistsnt Officer of the fishery.

*** On a minute examination of the samples of herrings produced to the Committee, it appeared that those caught in

in the deep sea of the coast of Shetland, were fatter and fuller of milts and roes than those caught on the coast of Yarmouth. Mr. SIEVERS stated, that herrings are generally known under three denominations, viz. the St. Michael's herring, the Highland herring, and the long shotten herring. That the deep sea fishing is carried on in sloops, each carrying ten or twelve hands, that they go to Shetland to clear out according to Act of Parliament about 16th June, and have then to return to commence the fishery at Buchaness off Peterhead on the 24th of June; that by being thus at present obliged to go first to Sheerness to clear out, they suffer great disadvantages by delays from wind and weather, in a voyage of 300 miles before they can commence the fishery at Buchaness; and that the Dutch have an advantage from not being obliged to go to Shetland; that the herrings caught in the deep sea off Buchaness are large, fat, and full-bellied; they are also richer in flavour, and more esteemed for home consumption and the Continent, but do not keep so well as the lanker herrings caught near Yarmouth, which last are better calculated for the West India markets; that the Yarmouth fishery is carried on in September and October, as the herrings come down the German Ocean.

The THANKS *of the Society were this Session voted to Mr.* PHILLIPS LONDON, *of Cannon-street, for his further Information on the Pickling of Mackerel and Preservation of Sprats. The following Communications were received from him, and samples of his Salt preserved in the Society's Repository.*

SIR,

HEREWITH you will receive a small cask of mackerel, which have been cured several months. I shall have the pleasure of calling at the Adelphi, and explain why they were not sent sooner.

I am, Sir,
Your obedient Servant,
PHILLIPS LONDON.

57, *Cannon Street, Nov.* 17*th*, 1813.

To C. TAYLOR, M.D. SEC.

SIR,

I RECEIVED your very polite and attentive note, and in consequence, should have done myself the honour of waiting upon the gentlemen of the Committee this evening, but am prevented by the severe weather. I therefore beg you to make my apology to them. The kit of mackerel I sent, was one remaining of the last Spring catching.

I herewith send you a small jar of mackerel in slices, which are said to be nearly equal in flavor to the anchovy.

Preparations

Preparations are made at Ramsgate for curing them upon a large scale early in the spring.

I take this opportunity of submitting to the Committee a specimen of *pickled sprats*, cured about six weeks ago in London, after having been caught two or three days. I have just now caused about one hundred barrels, fresh from the sea, to be done at Ramsgate, under the particular notice of Sir WM. CURTIS, Bart. Some such are now selling to the labouring poor at Spitalfields, under the association for their relief, *at one penny per pound*, in number about fifty fish. I presume to request the particular attention of the Society of Arts to this important subject.

And am,

Your very obedient Servant.

PHILLIPS LONDON.

Cannon Street, Jan. 29th, 1814.

To C. TAYLOR, M.D. SEC.

SIR,

I BEG of you to present my respectful compliments to the gentlemen of the Committee, and also to the Society, for their vote of Thanks conveyed to me in your letters of 9th March and 21st of April last, expressing also their hopes that I would persevere in preserving mackerel upon the principle which I had the honor to communicate to them in May 1813, and which, they were pleased to say, they regard as an object of much national consequence.

I have not, Sir, been inattentive to the object; on the contrary, I have caused to be cured this last season at Ramsgate, upwards of twenty-five thousand mackerel.

There were cured at the same place this autumn, and sent to the West Indies, upwards of three hundred barrels of herrings, and, in the last spring, about fifty barrels of sprats, all preserved upon the principles which the Society did me the honor so highly to approve, and which, I am fully persuaded, is the most effectual, economical, and expeditious method of curing fish ever practised, and I am strengthened in this hope by observing in the fishing regulating bill, now depending, that encouragement is held out by a new clause introduced expressly for the purpose.

In expectation that the mode of curing fish by immersion in fully saturated brine of solid salt may become very general, particularly for herrings, I am induced to inclose to the Society the process more fully explained than it is in their volume for 1813, and calculated for curing fish on shore, and in any situation however exposed, even without any covering, as you will readily conceive that a surplus of salt on the surface of the brine will always meet and quickly saturate any rain whatever that may fall into the reservoirs.

I am, with respect and esteem, Sir,
Your obedient Servant,
PHILLIPS LONDON.

57, *Cannon Street, Dec. 6th*, 1814,

To C. TAYLOR, M.D. SEC.

Process for curing Herrings, Pilchards, Mackarel, Sprats, &c. by immersion in Brine of British "SOLID SALT."

RESERVOIRS of any required size are to be provided in form of tanners' pits, or backs, or vats, or casks, perfectly water-tight,

water-tight, which should be about one half filled with brine made with the said salt of the sp. gravity of 1.206, water being 1.000, by dissolving about 28 parts of the salt in 72 parts fresh water.

The fish, as fresh as possible, are to be gutted or not, and without delay plunged into this fully saturated brine in such quantity as nearly to fill the reservoirs, and after remaining therein quite immersed for 5 or 6 days, they will be effectually struck, and so fully impregnated with salt, as to be perfectly fit to be repacked as usual with large grained "SOLID SALT," and exported to the hottest climates.

Brine is known always to be weakest at the uppest part. To remedy this, and in order that the brine be kept up to a uniform saturation, a wooden lattice-work frame, of such size as easily to be let into the inside of the reservoirs, is sunk an inch or two under the surface of the brine, for the purpose of suspending upon it lumps of 1 or 2lb. or larger, of "SOLID SALT," which effectually saturate whatever moisture may exude from the fish, and thus the brine will be continued of the utmost strength, and so long as any part of the lumps remain undissolved. The solidity of the lumps admits of their being applied several times, or whenever the reservoirs are replenished with fish; and the brine, although repeatedly used, does not putrify, nor do the fish if kept under the surface, ever become rancid.

All provisions are best preserved by the above method, particularly bacon, which, when cured by that process, is not so liable to become rusty, as when done by the usual method of rubbing it with salt, and yet is most effectually cured.

The solid salt may be procured in any quantity or of

any size of Mess. LONDONS, at the salt pit, Norwich, Cheshire; Mess. SMITH, MARTEN, SMITH & Co. America Square, London; or Mess. WHITEHOUSE & GALAN, Liverpool.

*** At the examination of Mr. LONDON'S pickled mackerel before the Committee, they were of opinion, that the best method of rendering them useful to the lower classes of people, would be by preparing them with potatoes in the following manner:—The raw potatoes to be scraped and boiled, and when nearly boiled sufficiently, one or more of the pickled mackerel to be then laid in the pan upon the boiling potatoes, and the boiling process continued till the mackerel is properly done, when the mackerel and potatoes are to be taken out of the water for use. On this plan, the potatoes will be rendered very palatable by the salt extricated from the boiling mackerel, the mackerel become tender and nutritious, and the mixture form a valuable and cheap diet.

The sprats will also answer prepared in a similar manner with potatoes.

The

The GOLD CERES MEDAL *was this Session voted to Dr.* WILLIAM ROXBURGH *of Calcutta, for the following important Communications on the different Products of the East Indies, and their several Applications to the Arts, Manufactures, and Commerce of the United Empire.*

MY DEAR DOCTOR,

GIVE me leave to introduce to you Colonel Alexander Beatson, late Governor of St. Helena; he is a man of great knowledge and merit, and can be of great service to the Society. I have troubled him with a duplicate of my paper on the growth of trees, the original was forwarded by the ship Lord Castlereagh, under the care of the Rev. Mr. JOHNS.

I am still alive, you see, and that is all. I am now reduced to a perfect skeleton, and weak in proportion.

I remain, Your's faithfully,

W. ROXBURGH.

St. Helena, August 31st, 1813.

To C. TAYLOR, M.D. SEC.

*** Dr. ROXBURGH since returned to England, and attended personally to receive the Society's Gold Medal on the 31t of May 1814. On the 21st October, he resided at No. 4, Park-place, Edinburgh, in a very dangerous state of health, but being indefatigable in his exertions, he has from thence favoured the Society with a further part of his Indian labours for a future Volume of their Transactions.

Notes to illustrate some few of the Trees in the annexed Table of Measurements.

1. An immense timber tree, with very straight trunk. On the *Gomooty* and *Fenny* rivers, the natives make their canoes of it. It is also highly esteemed for various other purposes, particularly the bottoms of boats and other immerged works.

2. One plant received from Sir Joseph Banks into this garden in 1807, when it was nearly twelve inches high, with its little stem about as thick as a goose-quill, is now, in 1812, about 25 feet high, constantly loaded with its beautiful, large, rosy, turbinate fruit, which, with an exuberance of dark green foliage, make it highly ornamental. The large firm sebacious aril, which is found attached to the seed, is held in high estimation in the *West Indies*, and much used in the stews and other messes of the Africans there.

3. This tree, which grows to a great size on most of the mountains over *India*, furnishes us with the real *olibanum or frankincense* of the ancients. See *Asiatic Researches*, vol. 9, p. 377, and vol. 11, p. 158.

4. The wood of this tree, which grows to a large size, is very like *Mahogany* in colour, but softer and more open.

5. Formerly called *Andersonia altissima*.

6. A most elegant tree, of great size and quick growth. The wood of a light chocolate colour, handsomely veined, and supplies the ship-builders at Calcutta with knees and other crooked timbers. It is strong, but unfortunately not so durable as teak.

7. An immense slow-growing tree, a native of the mountainous districts immediately east of *Bengal*. From its trunk the thin balsam, commonly called *wood oil* is extracted; See *Indian Plants*, vol. 3, No. 213.

8. The timber of this tree is of a dull reddish colour, hard and very

very durable; at *Rangoon* in *Pegu* it is called *Peema*, and there used for the knees and crooked timbers in ship-building.

9. The wood of this tree is both tough and hard; at *Rangoon* it is esteemed in the marine yard, and used for knees and other curved timbers: indeed most of the trees of this family furnish very excellent wood of a quality proper for such works as require much strength and durability. It is also strongly impregnated with tannin, though the greatest proportion of that principle resides in the bark.

10. In my former paper on this subject, it was called *nicotiæfolia*.

11. And this, together with the fifth species *bialata*, were also considered *Terminalias*.

12. A very large timber tree, a native of *Bengal*, chiefly the *Morung* forests; its wood of an excellent quality, and may be reckoned our second best, teak being the first, and is particularly valuable for its great strength and durability when kept under water, and begins to be very generally used for such naval purposes as are immersed. The bark abounds in tannin, and used to tan with by the natives of the countries where the tree grows; also to dye brown and its various shades: from wounds, fissures, &c. there exudes large quantities of a pure resin, called in Bengal *Saul Dammer*, and often used as a substitute for pitch. The Camphor tree of Sumatra belongs to this noble genus, which makes the fifth species thereof described by me.

13. Two plants, (and the first that had reached the East Indies) were sent by the Honourable the Court of Directors to the botanic garden at *Calcutta* in 1795; and by the end of 1812, many thousand, probably not less than ten, have been reared from these two, by means of a ball of earth applied round the cut bark of the smaller branches, nearly as described in the 24th volume of the Society's Transactions; for hitherto not a single fertile seed has been procured from them in the Botanic Garden, though they blossom regularly during the hot season, that is, between

tween February and the end of May. We look anxiously for the period when the flowers will become fertile; for, until good seed can be procured, this most useful, quick growing beautiful tree cannot become so plenty as it deserves to be. Some of them are already sufficiently large for a variety of purposes, and the wood as highly coloured and close in the grain as can possibly be expected in trees of their age.

14. This useful tree furnishes both the *Chebulic and black*, or *Indian Myrobalans* of our M. M. See *Heming on medicinal plants and drugs*, *Calcutta*, 1810.

15. The *Belleric Myrobalans* of our M. M. are the produce of this species of *Terminalia*, and we have lately discovered that the *Citrine Myrobalans* are the produce of two new species of the same genus; one of them I have figured and described under the name *Terminalia Citrina*, and the other I call *angustifolia*, young thriving trees of both are now growing in the Botanic Garden; the former grows to an immense size on the mountains immediately east of Bengal. I have specimens of its wood by me, they are nearly the colour of Mahogany, but heavier and closer in the grain.

ON THE GROWTH OF TREES IN

Table of the average Circumference of several of each Sort of t
at the End of October, when the Year's Growth may be r
the Girt of each Sort.

	Names of the Trees.	Synonyms.	
	Achras Sapota.	From the West Indies.	
	Adansonia digitata.		
	Ailanthus excelsa. R.		
	Alangium hexapetalum.	S. Unkotha-nicochaka.	
	Aleuritis triloba.		
	Andrachne apetala R.		
	Artocarpus integrifolia.	S. and T. Panasa.—H. and B. Kantal.	
1.	——— Chaplastra. R.	H. Chaplash	
	Barringtonia acutangula. R.	S. Eedjul.—H. and B. Hedjul	
	——— racemosa. R.		
	Bassia latifolia. R.	S. Madhuca.—H. and B. Mahwa	
	Bauhinia retusa R.		
	——— parviflora.	S. Vanarajah.—T. Arræ	
	Berria Ammonnilla. R.	C. Ammonnilla	
	Bignonia suberosa. R.		1
	——— Chelonoides.	Tam. Pori-padyræ-marum	
	——— undulata. R.		
	——— suaveolens. R	S. Patali	
	——— xylocarpa. R.		
	——— indica.	T. Pampena	
2.	Blighia sapida. Bot. Ann.		
	Bombax pentandrum.	From the West Indies.	
3.	Boswellia thurifera.	S. Salaci.—B. Loban.—E. Frankincens, or Olibanum tree	
	Briedelia spinosa.	T. Cora-maun	
	——— crenulata. R.	H. Canta-jarool	
	Bubroma Guazuma.	E. Bastard-cedar, from the West Indies.	
	Buchanania latifolia. R.	S. and B. Piyal.—Tam Maræda	
	——— angustifolia. R.		
	Butea frondosa.	S. Palosa.—H. Palash.—T. Maduga	
	Careya arborea. R.	T. Cumbi	
	——— spherica. R.		
	Cassia sumatrana. R.		17
	—— Bacilus Gært.		

EES IN THE BOTANIC GARDEN AT

ach Sort of the Trees mentioned on the Margin, in Inches and Qua
th may be reckoned over. The difference between the Numbers in

	Age (in Years) of the Trees measured (in 1803, 1804,															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
.....											23½	25½				
.....																
.....			24	29½	33	37	41½									
.....									21							
.....						28½	31				42	45	48½	51½	55	
.....									32½	34	35½	36¾	38	39		
.....	6															
.....									43	48	52	55½		60½		
.....									42	43	44					
.....										13						
.....																
.....																
.....													41		46	
.....			9½	11¾	14½	15¾	17	18								
.....	12															
.....						32½	35	37½	40	43			61½	64½	67	69
.....					18½	19½		22½								
.....											34	37½				
.....						20½	23									
.....										29	30		32			
.....				11	15½											
.....			22													
Olibanum tree				13	15¾	17½	19½	21½								
.....							39	41½		45						
.....							19	21¾	24¼	26½	28½					
.....																
.....							20	22	24							
.....					13	14½	16	17	19							
.....																
.....						17	21	24½	27							
.....											26½					
.....	17½	23½			30	33	36½	38½	40½	43						
.....																

EN AT CALCUTTA, IN BENGAL.

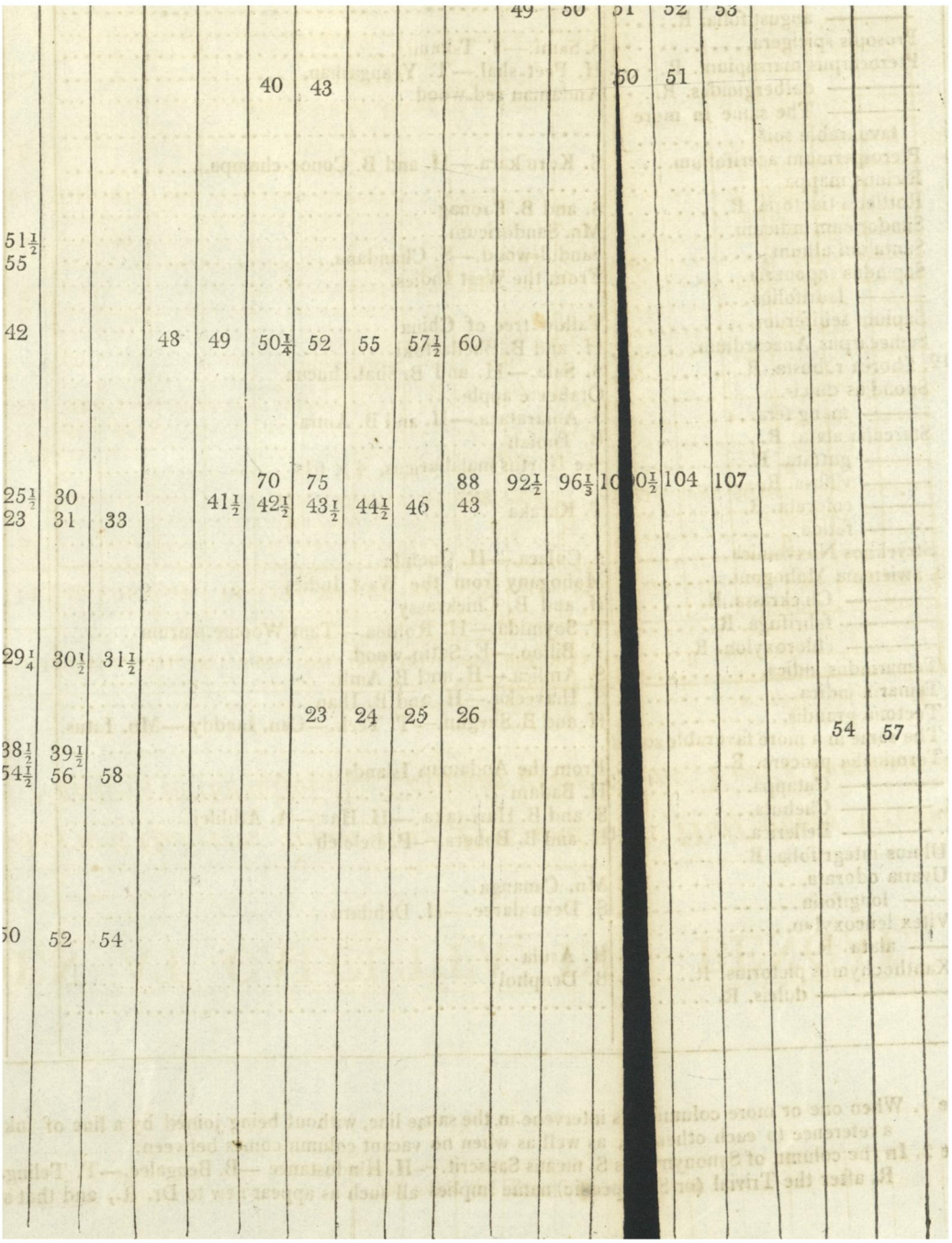
ches and Quarters, taken four Feet and a Half above Ground,
Numbers in the adjoining Columns gives one Year's Increase in

ured (in 1803, 1804, 1807, 1808, 1809, 1810, 1811, 1812, and 1813).

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
									188	204		216	220	223			
48½	51½	55															
38	39																
	60½																
								37½	38½	40							
										63		67					
41		46															
61½	64½	67	69½														
32																	
										49	50	51	52	53			
					40	43						50	51				

Buchanania latifolia. R.	S. and B. Piyal.—Tam Maræda
——— angustifolia. R.	
Butea frondosa.	S. Palosa.—H. Palash.—T. Maduga
Careya arborea. R.	T. Cumbi
——— spherica. R.	
Cassia sumatrana. R.	
—— Bacilus Gært.	
—— nodosa.	
—— marginata. R.	
Casuarina muricata. R.	In common garden mould
The same tree in a very sandy soil	
Casuarina nodiflora.	
——— equisetifolia	
4. Cedrela Toona. R.	H. Toon.—B. Poma
Cinchona thyrsifolia. R.	
5. Conocarpus latifolia. R.	T. Siri-maun
——— acuminata. R.	T. Paunch-maun
Cordia latifolia. R.	H. Burrah-Lehsura
——— Myxa.	H. Lehsura
6. Dalbergia Sissoo. R.	H. and B. Sissoon.—S. Shingshupa
——— emarginata. R.	Andaman Sissoo
——— Ougenensis. R.	
——— paniculata. R.	T. Patseroo
——— frondosa. R.	
——— zeylanica. R.	C. Belloo-labbee.
——— robusta. R.	B. Crowey
Dillenia augusta. R.	
——— speciosa.	S. Bhevya.—H. and B. Chalta.
Diospyros Ebenum.	Ceylon ebony tree
7. Dipterocarpus turbinatus.	H. and B. Suffet-Gurgon.—E. Wood-oil tree
Echites scholaris.	S. Septa-perna.—H. and B. Shopt-porna.
Erythrina suberosa. R.	T. Mooni-maduga
——— ovalifolia. R.	S. Paribhoodra
Euphorbia arborescens. R.	
——— Ligularia. R.	H. and B. Monosha shij
Fagara Retsa. R.	T. Retsa-maun
Ficus indica. Amoen. acad. 1. 27	S. Vata.—B. Ber.—E. Banyan tree
One of the accessary roots of an old tree which reached the ground 12 years ago, and was then about as thick as a quill.	
Gardenia dumetorum.	T. Manga
——— longispina. R.	
——— latifolia	H. Papara.—T. Caringua
——— lucida. R.	
——— costata. R.	
Garuga pinnata. R.	T. Garuga.—H. and B. Ioom
Gmelina arborea. R.	S. Gumbharee.—H. and B. Gumhar
Gnetum Gnemon.	
Gyrocarpus Jaquinii.	

							20	22	24							
					13	14½	16	17	19							
						17	21	24½	27							
											26½					
	17½	23½			30	33	36½	38½	40½	43						
								38	41	44	47	49				
					32½	34										
				20	22				37½	41	44½	48	51½			
				26½				39	42½	46½	50	52½	55			
	3½	10														
				13	17	21	25									
										32½	35		42			48
											36					
				12½	15½			23	26½	29	31½	33½				
				15½	18	21½	25	28								
							31	33½	36	38	39					
							33½	35	37¼	39						
	5	11½	14½	17½			36½	41½	46	49½	52¾	56				
													25⅓	30		
						12½	14¼			19½	22	25	23	31	33	
					41½	45¾	50½	54½	58	61						
				26	30½	34½	38½			51						
						29½	33½	37	40	42½						
	11															
	7															
											25	27½	29¼	30½	31½	
			5	8¼	10½	12½	14	16								
										34	36	37½	38½	39½		
											51	53	54½	56	58	
									36	38						
						26	28	28¼								
								26½								
						45	53½	58½	65	72	79					
											45					
												47½	50	52	54	
										19	21	22½				
								18	19	20½						
							22	23								
									24	26½	29					
									12	14	16½					
										36	43	49				
			18½			28½	31	32	33	33½						
											7½					
					28½	31½	32¼	33½	37							



	Names of the Trees.	Synonyms.
	Hardwickea binata. R.	Tam. Acha-marum.
	Herieteria minor. R.	H. and B. Shundree.
	Hura crepitans.	From the West Indies.
	Ionesia Asoca. R.	S. Asoca.—H. and B. Bussuck.
	Kleinhovia hospita.	
8.	Lagerstroemia Reginæ.	S. Arjuna.—H. Iarool.
	——— grandiflora R.	S. Indradroog.
	——— parviflora R.	T. Chinamghie.
	Laurus Cinnamomum.	S. Darasity.—Dar-chini. H. and B
	Melaleuca Cajuputi.	E. Cajuputi-oil tree
	Melia Azedarach.	
	—— robusta. R.	
	—— superba. R.	
	Mimosa Shirisha. R.	S. H. and B. Shirish
9.	——— xylocarpa. R.	T. Conda-tangheru.—Burm. Pingadow
	——— elata. R.	
	——— stipulata. R.	H. Amlooki
	——— lucida. R.	
	——— dulcis. R.	
	——— Catechu.	S. Chadira, and Kudheer the Catechu.
	——— odoratissima.	T. Shinduga. Tam. Sælæmarum
	——— arabica.	S. Barbura.—H. and B. Babul.
	——— biglobosa.	B. Supatah
	——— pedunculata. R.	
	——— Suma. R.	S. Sami.—B. Shain.
	——— leucophloea.	Tam. Veel-velum.
	Myristica aromatica.	E. Nutmeg tree.
	Nauclea parvifolia. R.	T. Botu-Cadami.
	——— stipulata. R.	
10	——— macrophylla. R.	
	——— cordata. R.	
	——— cordifolia. R.	T. Daduga.—H. and B. Keli-Codom.
	Nerium tinctorium. R.	T. Tshit-ankaloo
	Ochroma Lagopus.	From the West Indies.
	Pentaptera paniculata. R.	Tam. Pæ-karakai.—T. Nimmeeri.
	——— Arjuna. R.	S. Cocubah.
11.	——— tomentosa. R.	S. Asana.—H. and B. Assan.
	——— crenulata. R.	
	——— bialata. R.	
	——— angustifolia. R.	
	Prosopis spicigera.	S. Sami.—T. Tshami.
	Pterocarpus marsupium. R.	H. Peet-shal.—T. Yeangashan.
	——— dalbergioides. R.	Andaman red-wood
	——— The same in more favourable soil	
	Pterospermum acerifolium	S. Kornikara.—H. and B. Conoc-champa.

	Age (in Years) of the Trees measured (in 1803, 18													
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
						20	24	28	30¾	33	36			
							63	65	66	67	67¼			
							22	23½	25					
												34		
					30	34	38	—	46					
				27	31	36	39	41½	45					
						16⅓	20½	24	28½					
									13½	15	17	18½	20	
					37½	44¾	46½	47	47½	49½				
						44	49½	51¾	53½	56				
	10	17	29	38	44	50	58							
							29	31½	—	—	35	37	39	
low						17	21	—	—	31½	34	36½	39	4
									28	32½	—	—	—	5
							40	48½	—	—	66	74½	80	8
											49	56½	—	—
								59	64					
hu						22	25	27	28	29	30¼			
							34	37	40	43	46	50		
								34¾	37	41	44			
	3													
	7	11¾	16			21	25	29	33	36½	—	42		
						37½	38½	39¾	41					
					3½	4½	2½ fab. grd.		8½	10	10¾ 31¼	11¼	11¾	1
				11	13½	—	—	19½	21					
	8	15¾	—	—	29	33	36	38¾	40½	43				
						21½								
m						22	25	—	—	—	36	38		
													36½	3
							32	36½	39½	42	45½			
							18	22						
							32	35½	38	40½	42			
														3
						23	26	28	30	31¾				
							32	35½	38	40½				
											27			
											23	26	—	—
									27	29½	—	—	38½	4
													48	5
hampa														

measured (in 1803, 1804, 1807, 1808, 1809, 1810, 1811, 1812, and 1813).

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
36																
67¼																
	34						48½	53	—	—	—	—	71	74	77	79
17	18½	20														
35	37	39														
34	36½	39	42	44½												
—	—	—	50	55	59	64										
66	74½	80	84½	89	95											
49	56½	—	—	75	79½	83	88	93	97½							
30¼																
46	50															
44																
—	42															
10¾	11¼	11¾	12½													
31¼																
36	38															
		36½	39½	43¼	46½	49	52									
45½																
42																
			37	38					43½	44½	45½	47				
						51	53½	—	—	62	64	66	68½	71	73	
27																
23	26	—	—	—	—	40	42	43½	45	46½						
—	—	38½	43	46½	49½	52½	55¼									
		48	51													
											57	60	63	65½	68	70

——— angustifolia. R.	
Prosopis spicigera	S. Sami.—T. Tshami.
Pterocarpus marsupium. R.	H. Peet-shal.—T. Yeangashan.
——— dalbergioides. R.	Andaman red-wood
——— The same in more favourable soil	
Pterospermum acerifolium	S. Kornikara.—H. and B. Conoc-champa
Ricinus mappa	
Rottleria tinctoria. R.	S. and B. Poonag
Sandoricum indicum	Mn. Sandoricum
Santalum album	Sandul-wood.—S. Chandana.
Sapindus saponaria	From the West Indies
——— laurifolius	
Sapium sebiferum	Tallow-tree of China
Semecarpus Anacardium	H. and B. Bhella-toki
12. Shorea robusta. R.	S. Sala.—H. and B. Shal-chucua
Spondias dulcis	Otaheeté apple
——— mangifera	S. Amarataca.—H. and B. Amra
Sterculia alata. R.	B. Toolah
——— guttata. R.	See Hortus malabaricus, 4 × 61
——— villosa. R.	
——— colorata. R.	T. Karaka
——— fetida.	
Strychnos Nuxvomica	S. Culaca.—H. Cuchila
13. Swietenia Mahogoni	Mahogany from the West Indies
——— Chickrassa. R.	H. and B. Chickrassy
——— febrifuga. R.	T. Soymida.—H. Rohina.—Tam Woonæ-marum
——— chloroxylon. R.	T. Billoo.—E. Satin-wood
Tamarindus indica	S. Amlica.—H. and B. Amli
Tamarix indica	S. Ihaveeka.—H. and B. Ihau
Tectona grandis	H. and B. Shegun.—T. Teek.—Can. Iaaddy.—Mn. I
The same in a more favorable so	
Terminalia procera. R.	From the Andaman Islands
——— Catappa	H. Badam
14. ——— Chebula	S. and B. Hari-taka.—H. Har.—A. Athlilej
15. ——— Bellerica	H. and B. Bohera.—P. Beleleh
Ulmus integrifolia. R.	
Uvaria odorata	Mn. Cananga
—— longifolia	S. Deva-daree.—H. Debdaru
Vitex leucoxylon	
—— alata. R.	H. Asula
Xanthochymus pictorius. R.	B. Denphol
——— dulcis. R.	

Note 1. When one or more columns intervene in the same line, without being joined by a reference to each other, as well as when no vacant column comes between.

Note 2. In the column of Synonyms S. means Sanscrit.—H. Hindustanee.—B. Bengalee.—R. after the Trivial (or Specific) name implies all such as appear new to Dr. R.,

.....							32	35½	38	40½				
.....											27			
.....											23	26		
.....									27	29½	—	—	38½	
.....													48	
hampa.....														
.....												31½	32¼	
.....										25	26	27½		
.....									27	29	30½	32¼	34	
.....				20	25									
.....								31½	34½					
.....									32	34½	37½	40½	43	
.....											14¼	16¼		
.....				30	32	34½	38	41	45					
.....					21	24½	27¼	31						
.....						25	27½	—	—	—	32	34¼	37½	
.....								30½	33½	37	40			
.....								23¾						
.....						20	22	24½	26	27½	30			
.....					25½	30¼	—	—	41	44	47	50		
Woonæ-marum.....							25	28	—	—	37½	39½		
.....							21½	24½	—	—	—	37¼		
.....					18¾	21½	23¼	24½	26½					
.....													48	
n. Iaaddy.—Mn. Iatus.	7	10½					18¼	21½						
.....								42						
.....				25½			23	25	—	—	32	34		
.....		15½						30	32½	—	—	40		
. Athlilej.....			21	25	29	32								
.....								20	23¼	—	—	31½		
.....								34						
.....			14	19	—	—	29	31½	34	36	37½	39½		
.....			8½	10¾	13	15	16½	18½						
.....											29½	31	33	
.....											30	31	32	
.....														
.....													8½	

being joined by a line of ink, the measurements to the right and left of the vacancy were not
comes between.

ee.—B. Bengalee.—T. Telinga.—Tam. Tamul.—C. Cingalese.—Can. Canara.—Mn. Malayan.—
ear new to Dr. R., and that such Trivial names have been given by him.

27																
23	26	——	——	——	——	40	42	43½	45	46½						
——	——	38½	43	46½	49½	52½	55¼									
		48	51													
											57	60	63	65½	68	70
	31½	32¼														
26	27½									78	80	83	85½	88	91	
30½	32¼	34	35¼													
				60	61¼	62¼	——	65½								
37½	40½	43	47													
14¼	16¼															
						50	52½	55	57							
32	34¼	37½	39	41												
37	40															
27½	30															
44	47	50	54													
——	37½	39½	41½	——	44	46½										
——	——	37¼	40⅓	43	45½	47	49									
							46½	49½	52	54	56					
		48	50	52	53	——	60									
				42½	44¼	——	——	50	52	54	55½	57½				
				54½	58¼											
——	32	34	36	37½	39	40										
——	——	40	43	46	48½	50	51½									
——	——	31½	34	36	38½	40¾										
36	37½	39½														
29½	31	33														
30	31	32														
													26			
		8½														

ıe vacancy were not taken from the same trees; but when joined, they are the same, and bear

a.—Mn. Malayan.—A. Arabic.—P. Persian.—E. English.—Burm. the Burma Language, and

W. ROXBURGH.